IS 11188-1 (1991): Vault (strong room) doors: Part 1 [MED 24: Security Equipment]

BLANK PAGE

(Reaffirmed 2000)

भारतीय मानक

वाल्ट (कोष-कक्ष) के दरवाजे

भाग 1 विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

VAULT (STRONG ROOM) DOORS

PART 1 SPECIFICATION

(First Revision)

UDC 69·028·1

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

September 1991

Price Group 4

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Safes Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

Vault (strong room) doors are used mainly in banking industry to protect the contents of vault (strong rooms) from burglarious attack and also against damage to valuables from fire. These doors may also be used by other organizations like financial institutions, commercial, industrial, defence and mercantile organizations.

Earlier the vault doors and strong room doors were considered to be two different items. Hence IS 11188 : 1985 'Vault doors' was laying down requirements of vault doors and IS 7152 : 1974 'Strong room doors' was covering the requirements of strong room doors. Under the present circumstances the vault doors and strong room doors are considered to be synonimous. Hence during the revision of IS 11188, its scope has been modified to cover the requirements of vault (strong room) doors. Subsequently IS 7152 will be withdrawn.

This standard was first published in 1985. In this revision, the performance requirements of vault (strong room) doors against burglarious attacks and also against damage from fire hazard have been specified. It has also been found necessary to stipulate that the purchasers or his authorised agent should have free access to the works to fully satisfy himself in regard to the manufacture, filling of fire resisting composition, etc. Hence, this standard has been prepared in the following parts to cover the various aspects:

Part 1 Specification

Part 2 Tests for burglary resistance

Part 3 Tests for fire resistance

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

VAULT (STRONG ROOM) DOORS

PART 1 SPECIFICATION

(First Revision)

1 SCOPE

This standard (Part 1) covers the requirements for construction and performance of vault (strong room) door affording protection against burglary attacks and fire.

2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 TERMINOLOGY

Vault (Strong Room) Doors — A device standing in an upright position with doors swinging or receding at the sides and provided with vestibule, substantial hinges and locking mechanism capable of withstanding the stresses and exposure to fire, extraneous force and attack, to which doors are subjected to, in service.

4 TYPES

4.1 Vault Main Doors

This type of vault doors are used for special purposes in defence, banks and other security organisations.

4.2 Vault Emergency Doors

This type of vault doors are used in vaults for emergency entry and exit.

5 DIMENSIONS

Dimensions of vault (strong room) doors shall be as specified in Table 1 read with Fig. 1.

6 MATERIAL

Materials used for manufacture of vault doors shall be as specified in Table 2.

7 CLASSIFICATION

Class	*Classification Code*	*Burglar Resisting Capacity*	*Fire Resisting Capacity*
(1)	(2)	(3)	(4)
C	TRTL 15-FR 30	15 min	30 min
B	TRTL 30-FR 30	30 min	30 min
A	TRTL 60	60 min	[1]
AA	TRTL 120	120 min	[1]
AAA	TRTL 180	180 min	[1]

[1] For vault room doors of Class 'A', 'AA' and 'AAA', an inherent fire resistant capacity of 30 minutes is desirable.

8 CONSTRUCTION AND GENERAL REQUIREMENTS

8.1 Doors (*see* Fig. 1)

8.1.1 *Ventilating Grill Gate (Inside)*

Ventilating grill gate shall be made out of mild steel angles, plates or channels with mild steel rods welded in a rigid frame. The mild steel rods shall be welded on the underside of the frame with the holes drilled in the upper and lower horizontal member of the shutter frame after passing through the flats or channels at the centre of the shutter frame. The grill gate shall be hinged in strong room doors frame such that it opens inside, either from left to right or from right to left as required by the user.

8.1.1.1 An unpickable dual control locking device, capable of being operated from the sides of the door shall be fitted in the grill gate.

8.1.2 *Main Door (Outside)*

The main door shall consist of outer and inner mild steel plates conforming to IS 2062 : 1984 or IS 226 : 1975 for plates up to 20 mm thick, strongly rimmed and continuously welded to form a single structure and tightly enclosing a solid slab of high speed drill-resisting and oxy-acetylene torch-resisting material. Alternatively the entire door may be made up of several alternate layers of hardened mild steel plates, carbon steel plates and oxyacetylene resisting non-ferrous metal plates. These plates shall altogether be riveted with at least 10 mm dia contersunk rivets spaced at interval not exceeding 100 mm and starting not more than 50 mm from the corners. Before riveting, the rivets holes shall be properly countersunk from both ends and after riveting the cavity shall be welded and ground to smooth finish to outer surface.

8.1.2.1 The doors of Class 'C' and 'B' shall have smooth finish and doors of other classes shall be mechined on all edges. These doors shall fit snugly into the door frame. The gap at any place between the door edge and the frame shall not be more than 1·0 mm, when the door is in locked position. In the locked position, the door after clenching shall not have any play in the direction in which the door opens (*see also* **8.2.2** and **8.2.3**).

Table 1 Dimensions of Vault (Strong Room) Doors and Their Components

(*Clauses* 5, 8.2.1, 8.3.2.1 and *Fig.* 1)

All dimensions in millimetres.

Sl No.	Particulars		Main Doors					Emergency Doors				
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Door Type		Class 'C'	Class 'B'	Class 'A'	Class 'AA'	Class 'AAA'	Class 'C'	Class 'B'	Class 'A'	Class 'AA'	Class 'AAA'
2	Overall dimensions of vault doors	Height H *Max*	2 250	2 300	2 350	2 350	2 450	1 200	1 200	1 200	1 200	1 300
		Min	2 100	2 100	2 100	2 100	2 250	900	900	900	900	1 000
		Width W *Max*	1 300	1 400	1 450	1 450	1 550	1 250	1 250	1 250	1 250	1 350
		Min	1 150	1 250	1 250	1 250	1 350	1 100	1 100	1 100	1 100	1 200
3	Inside dimensions of or clear opening when door shutters are swung open at 180°	Height H *Min*	1 950	1 950	1 950	1 950	1 950	600	600	600	600	600
		Width W *Min*	900	900	900	900	900	750	750	750	750	750
4	a) Thickness of door frame angle, channel or section made out of M. S. plates, if built up to form a channel, *Min*		10	10	19	19	19	10	10	19	19	19
	b) Thickness of door frame, if fabricated from single plate to form channel section, *Min*		10	10	10	10	10	10	10	10	10	10
5	Diameter of the rebate coming under shear		Shall not be less than diameter of shooting bolts									
6	Thickness of grill gate angles or section made out of M. S. plates, *Min*		5	5	5	5	5	5	5	5	5	5
7	Diameter of grill gate rods, *Min*		19	19	19	19	19	19	19	19	19	19
8	Pitch of grill gate rods		Not more than 100 mm centre to centre									
9	Thickness of door slab, thickness over rebates, *Min*		12	29	65	90	150	12	29	65	90	150
10	Thickness of the door over lock, *Min*		40	50	75	100	160	40	50	75	100	160
11	Thickness of drill and oxyacetylene torch resisting layer (excluding mild steel plates)		10±1	20±1	45±5	70±5	120±5	10±1	20±1	45±5	70±5	120±5
12	Wall thickness (recommendation)		305 to 380	305 to 380	305 to 450	305 to 450	450 to 610	305 to 380	305 to 380	305 to 450	305 to 450	450 to 610
13	Number of locks		2	2	2	2	2	2	2	2	2	2
14	Number of shooting bolts on hinge side, *Min*		6	6	6	6	6	3	3	3	3	2
15	Number of shooting bolts on opposite side, *Min*		6	6	6	6	6	3	3	3	3	2
16	Number of shooting bolts at top, *Min*		—	—	2	2	2	—	—	—	—	1
17	Number of shooting bolts at bottom, *Min*		—	—	2	2	2	—	—	—	—	1
18	Diameter of shooting bolts and cross sectional area, *Min*		38 1 134	38 1 134	50 1 963	50 1 963	65 3 318	38 1 134	38 1 134	50 1 963	50 1 963	65 3 318
19	Depth of engagement of shooting bolts, *Min*		15	15	15	15	20	15	15	15	15	20

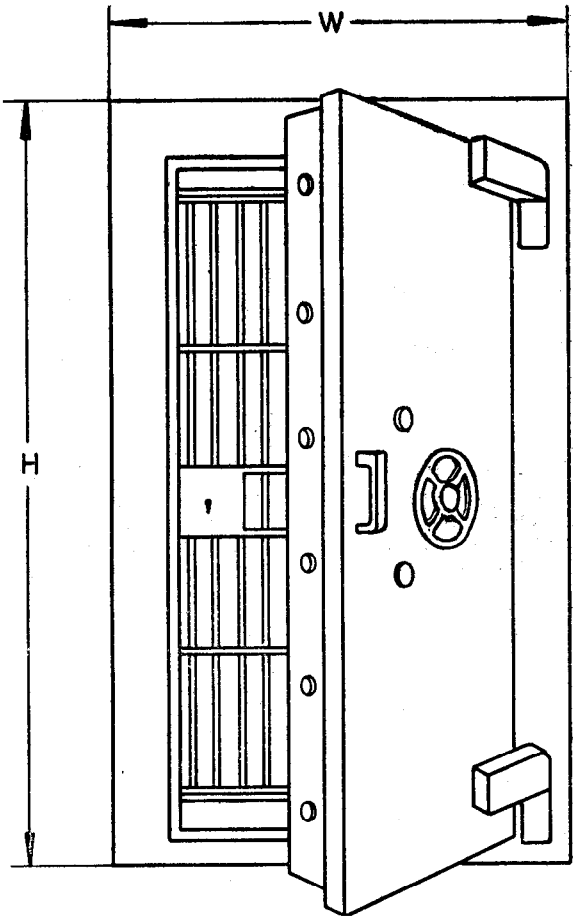


FIG. 1 DIMENSIONS FOR VAULT (STRONG ROOM) DOORS

8.2 Door Frame

The door frame and vestibule section shall be of channel type to grip the concrete wall, either in one piece or built up. Alternatively for Class 'C' and 'B' doors, minimum three angle brackets of size 100 mm × 100 mm × 10 mm may be provided on each side of the door frame to grip the concrete wall.

8.2.1 *Rebate of the Door Frame*

The rebate of the door frame shall be formed by mild steel sections as specified in Table 2. The vertical rebates shall be riveted or plug welded with the side members of the door frame and shall conform to dimensions specified in Table 1. Similarly, top rebate shall be plug welded/riveted with the top member. The entire door frame shall be so constructed that it can withstand any shock or impact due to force, fire, fall and burglar attacks that are likely to be encountered during service.

8.2.2 *Compression Mechanism*

A continuous resilient packing shall be incorporated in the frame and a compression mechanism shall be provided for clenching the door tight against this packing in doors of 'B', 'A', 'AA' and 'AAA' classes. Protection is thus provided against the admission of flood water or liquid explosives.

8.2.3 *Crane Hinge Mechanism*

In case of doors of Class 'AA' and 'AAA', the door may be hung on a specially designed sturdy crane hinge of the double bearing type, provided with thrust and ball bearings rendering the movement of the door well balanced and easy so that very little effort is required for opening and closing the door. This construction also permits movement of the door perpendicular to the frame and since the crane hinge is also capable of adjustment both horizontally and vertically it ensures a much closer fit of the door into the frame. Clenching is achieved by a special point to clenching mechanism operated through a worm and worm wheel. The hinges shall have arrangements for lubrication.

8.3 Locking Mechanism

8.3.1 *Lock Case*

It shall be solid flange on all the four sides build up of mild steel angles or flats/plates of thickness not less than 5 mm for Classes 'C' and 'B' doors and 10 mm for doors of other classes, firmly secured to the door slab marking the door slab and lock case integral. The solid flanges shall provide firm bearings for the strong sliding bolts which pass through them and shall form a joint construction behind the rebates when the door is locked, thus interlocking the door shutters and frame.

8.3.2 *Bolt Work*

8.3.2.1 The number of bolts and their minimum dimensions shall be as specified in Table 1.

8.3.2.2 *Construction*

The bolt work shall be mounted at a secure base such as the door slab and not on the lock case cover. A centrally situated strong steel eccentric shaft or lever control bolt or any other mechanism shall actuate the cross straps (rigidly) fixed to the shooting bolt carrier strap on either side), which transmit motion to the shooting bolts on all four sides as the case may be. The eccentric shaft or lever control bolt or any other device shall be drive resistant and it shall be secured from inside by providing a retaining plate in which it is pivoted.

8.3.2.3 For convenient operation of the bolt work mechanism, square or round bearings pillars shall be provided for top sliding arms.

8.4 Locks

8.4.1 The shooting bolt mechanism shall be controlled by two 10 levers (minimum) high-precision-dual-control-unpickable special-key lock in case of Classes 'A', 'AA' and 'AAA' doors and 8 levers key lock in case of Classes 'C' and 'B' doors.

Table 2 Material for Manufacture of Components of Vault Doors
(*Clauses* 6 *and* 8.2.1)

Sl No.	Part	Material Conforming to
(1)	(2)	(3)
1	Doors, door frame, bolt work, grill gate and other mild steel components	IS 2062 : 1984 or IS 226 : 1975 or IS 9550 : 1980, IS 1731 : 1971, IS 1732 : 1971
2	Door fittings	Grade 1 of IS 306 : 1983 or Grade III of IS 292 : 1983 or IS 713 : 1981 or IS 1570 (Part 5) : 1985 or Mild steel with epoxy power fusion coating
3	Oxyacetylene torch and drill resisting layer	Special oxyacetylene torch and drill resisting slab of suitable material or materials capable of withstanding burglarious attack with the help of oxyacetylene torch and H. S. drills
4	Guard plate underlock	Carbon steel case hardened to 55 HRC *Min*, Case depth 0·25 mm *Min* (with a minimum of 0·4 percent carbon)
5	Welding electrodes	IS 814 (Parts 1 and 2) : 1974
6	Rivets	IS 2155 : 1982
7	Screws	Conforming to IS 1365 : 1978
8	Finishing layer	a) Pretreatment; degreasing, derusting and phosphating of all components individually b) Nitrocellulose or acrylic or epoxy base paint

8.4.2 The lock shall be provided with stainless steel keys in duplicate. The keys shall be double bitted for Class 'A', 'AA' and 'AAA' doors and single bitted type for Classes 'C' and 'B'with detachable key bite where necessary. Alternatively, one/two four wheel keyless combination locks capable of 100 million changes of combination may be provided if required by the purchaser. This lock shall be fitted with small key dial check lock, enabling the dial to be locked to prevent unautho rised manipulation. The lock bolt shall not be used to serve as a stopper, unless forces are balanced in it.

8.4.2.1 The general arrangements of the locks, their materials and workmanship shall be in accordance with IS 729 : 1979.

8.4.3 The lock shall be fixed with at least four bolts of 8 mm diameter such that any pressure applied on the bolts either directly or through the handle of the door, is not transmitted to the fixing screw of the lock or locks. All working parts of the lock shall have corrosion resistant protective coatings capable of withstanding exposure for 72 h to air containing a 20 percent salt solution.

8.4.4 *Time Lock*

Although the provision of time lock is optional, the locking mechanism, shooting bolt mechanism and door construction shall be such as to facilitate providing and fixing time lock at any later date for doors of Class 'A', 'AA' and 'AAA'. The user shall provide the specifications of the time lock which is intended to be fitted later. The manufacturer will have to give satisfactoy trial in this regard before the despatch of the door.

8.4.5 *Automatic Relocking Device*

An automatic relocking device shall be fitted in the door which, being always on guard, shall come into operation if a lock is dislodged by explosives or attacked by other means.

9 DOOR FITTINGS

9.1 Hinges

Strap hinges forged or gas cut from an integral plate of appropriate thickness shall be suitably bolted to the door shutter and the same shall be suitably bolted to the door shutter and the same shall be pivoted over pivot which shall be bolted to the door frame. The hinge-pivot shall be such that the door moves without any appreciable friction or play and permit clear opening of the passage. The pivots shall have arrangement for lubrication.

9.1.1 *Adjusting Bolt*

An adjusting bolt shall be provided to facilitate height adjustment of the door shutter which may get lowered in the door frame due to wear in the pivot. The adjusting bolt shall have a lock nut arrangement.

9.2 Handles

Handles shall be heavy duty and sturdy, painted or plastic/powder coated or shall have durable and attractive finish of nickel or chrome plating.

9.3 Foot Bridge

In case of doors of Class 'A', 'AA' and 'AAA', a hinged chequered steel foot-bridge shall be provided to facilitate the passage of trolleys, etc, into the vault. The foot-bridge shall be folded into the vestibule before the door is closed.

9.4 Vault Lighting Control

A control switch shall be fitted on the door to automatically control the electric supply to the vault.

10 FINISH

10.1 All dents, burrs and sharp edges shall be removed from the various components and they shall be thoroughly degreased and cleaned of rust and scale preferably by shot blasting or by normal pickling process. The surface shall then be phosphatised before application of rod rust-proof primer.

10.2 Putty shall be applied to all the surface requiring finish and shall conform to IS 419 : 1967 or IS 110 : 1983. Two coats of undercoat and final coat of a synthetic enamel/nitrocellulose paint shall be applied.

10.3 Finish shall be smooth, uniformly applied and free from visible defects. It shall be hard and shall not readily chip or flake. The dry film thickness shall not be less than 0·1 mm thick and shall be polished to bring out lustre.

10.4 Alternatively the doors can be finished by cladding in stainless steel.

10.5 The mating surfaces of the door and frame shall be painted smooth if the door edges are not machined and shall not be painted if the mating surfaces of the doors and frame are machined but shall be polished with fine abrasive and grease to ensure an accurate fitting.

11 TEST AND CRITERIA FOR CONFORMITY

11.1 Three samples selected by the inspecting agency shall be tested as follows:

Sample No.	*Nature of Test*	*Relevant IS No.*
1	Burglary resistance	11188 (Part 2)
2	Fire endurance	11188 (Part 3)
3	Fire and stream-hose	11188 (Part 3)

11.2 The doors shall be considered to be conforming to the requirements of this standard if they successfully complete the tests for a period as specified in col 3 and 4 of 7 of this standard.

12 MARKING

All vault (strong room) doors shall be marked with the proposed classification in addition to manufacturers' name or trade-mark and the year of manufacture.

12.1 Certification Marking

The vault (strong room) door may also be marked with the Standard Mark.

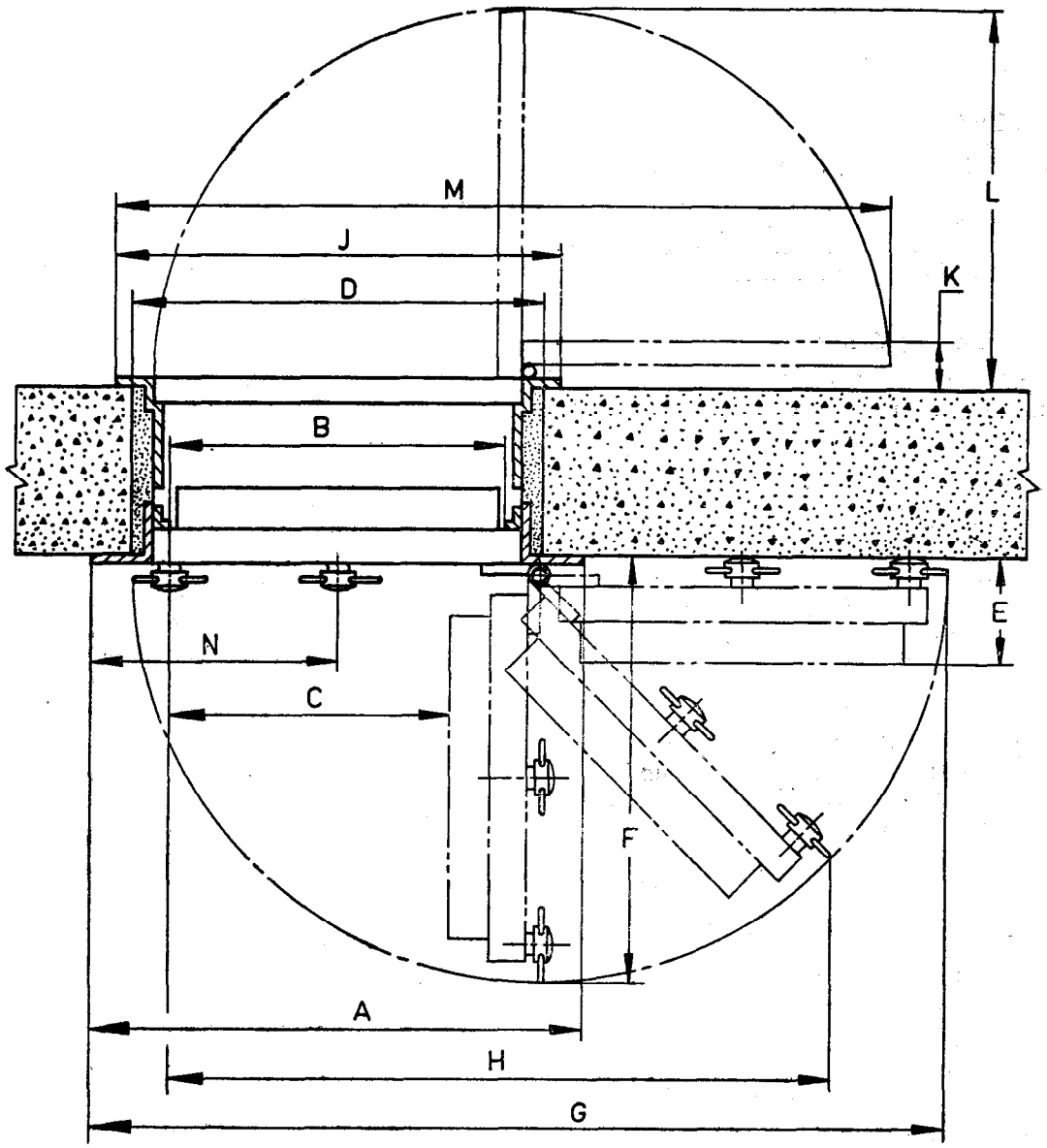
12.2 Marking on Keys

The keys shall be marked with an identification number which shall not be the same as the serial number of vault.door.

13 INSTALLATION

The manufacturers shall provide full details for installation of the sit door to the purchaser. Detailed drawings for the wall opening shall also be provided to the purchaser's architects before the start of civil construction work. They shall also depute their mechanics, if required by the purchaser, to install the strong room doors.

14 INFORMATION TO BE SUPPLIED BY MANUFACTURER TO THE PURCHASER



a) Width over door frame, *A* _____

b) Clear opening door open at 180°, *B* _____

c) Clear opening door open at 90°, *C* _____

d) Wall opening, *D* _____

e) Projection of door open at 180°, *E* _____

f) Projection of door open at 90°, *F* _____

g) Overall width of door and frame when door is open at 180°, *G* _____

h) Minimum overall width of door and frame to give maximum clear opening, *H* _____

j) Width over gate frame, *J* _____

k) Projection of gate open at 180°, *K* _____

m) Projection of gate open at 90°, *L* _____

n) Overall width of gate and frame when gate is open at 180°, *M* _____

p) Centre line of door opening to edge of frame, *N* _____

q) Shipping data:

1) Height of case _____

2) Width of case _____

3) Depth of case _____

4) Net mass _____

5) Gross mass _____

ANNEX A

(*Clause* 2)

LIST OF RELATED STANDARDS

IS No.	*Title*	*IS No.*	*Title*
110 : 1983	Ready mixed paint, brushing, grey filler, for enamels, for use over primers (*second revision*)	1365 : 1978	Slotted countersunk head screws (*third revision*)
226 : 1975	Structural steel (standard quality) (*fifth revision*)	1570 (Part 5) : 1985	Schedules for wrought steels: Part 5 Stainless and heat-resisting steel (*second revision*)
292 : 1983	Leaded brass ingots and castings (*second revision*)	1731 : 1971	Dimensions for steel flats for structural and general engineering purposes (*first revision*)
306 : 1983	Tin bronze ingots and castings (*third revision*)	1732 : 1971	Dimensions for round and square steel bars for structural and general engineering purposes
419 : 1967	Putty, for use on window frames (*first revision*)	2062 : 1984	Weldable structural steel (*third revision*)
713 : 1981	Zinc base alloy ingots for die casting (*second revision*)	2155 : 1982	Cold forged solid steel rivets for hot closing (6 to 16 mm diameter) (*first revision*)
729 : 1979	Drawer locks, cupboard locks and box locks (*third revision*)	9550 : 1980	Bright bars
814 (Part 1) : 1974	Covered electrodes for metal arc welding of structural steels: Part 1 For welding products other than sheets (*fourth revision*)	11188 (Part 2) : 1991	Vault (strong room) doors: Part 2 Test for burglary resistance
814 (Part 2) : 1974	Covered electrodes for metal arc welding of structural steels: Part 2 For welding sheets (*fourth revision*)	11188 (Part 3) : 1991	Vault (strong room) doors: Part 3 Test for fire resistance

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufactures or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc : No. HMD 24 (0037)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarter :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :	**Telephone**
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	**331 01 31, 331 13 75**
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	**87 86 62**
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	**53 38 43**
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	**235 02 16**
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) BOMBAY 400093	**632 92 95**

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. PATNA. THIRUVANANTHAPURAM.

Printed at New India Printing Press, Khurja, India

AMENDMENT NO. 1 OCTOBER 1993
TO
IS 11188 (Part 1) : 1991 VAULT (STRONG ROOM) DOORS
PART 1 SPECIFICATION

(First Revision)

(*Page* 5, *clause* **11.2**) — Add the following clause after **11.2**:

'**11.3** The test specified in **11.1** shall be considered as type test and shall be carried out for initial approval of the design or at any subsequent change in the design of the vault doors. These tests shall be carried out once in two years and shall cover the complete range of the product over a period of time.'

(*Page* 5, *clause* **12**) — Substitute the following for the existing clause:

"**12 MARKING**

All vault (strong room) doors shall be marked with the manufacturer's name or trade mark, the words 'vault doors', class of the door and the year of the manufacture at the top horizontal surface of the lock case."

(HMD 24)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 2 SEPTEMBER 1994
TO
IS 11188 (Part 1) : 1991 VAULT (STRONG ROOM) DOORS
PART 1 SPECIFICATION

(First Revision)

(*Page* 1, *clause* **8.1.2**, *first sentence*) — Substitute 'IS 2062 : 1992' *for* 'IS 2062 : 1984 or IS 226 : 1975.'

(*Page* 4, *Table* 2, *Sl No.* 1 *and* 5) — Substitute the following for the existing matter:

'1.	Doors, door frame, bolt work, grill gate and other mild steel components	IS 2062 : 1992 or IS 9550 : 1980 IS 1732 : 1989
5.	Welding electrodes	IS 814 : 1991

[*Page* 7, *Annex* A, IS 226 : 1975, IS 814 (Part 1) : 1974, IS 814 (Part 2) : 1974 *and* IS 1731 : 1971] — Delete.

(*Page* 7, *Annex* A, IS 729 : 1979) — Insert the following matter after IS 729 : 1979:

'814 : 1991 Covered electrodes for manual arc welding of carbon and carbon manganese steel (*fifth revision*)'

(*Page* 7, *Annex* A, IS 1732 : 1971) — Substitute the following for the existing matter:

'1732 : 1989 Dimensions for round and square steel bars for structural and general engineering purposes (*first revision*)

2062 : 1992 Steel for general structural purposes (*fourth revision*)'

(HMD 24)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 3 MAY 1998
TO
IS 11188 (Part 1) : 1991 VAULT (STRONG ROOM) DOORS

PART 1 SPECIFICATION

(First Revision)

(*Page* 3, *clause* **8.4.1**) — Substitute the following for the existing clause:

'**8.4.1** The shooting bolt mechanism shall be controlled by two 8 levers (minimum) high-precision-dual-control-unpickable special- key locks.'

(HMD 24)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 4 NOVEMBER 2000 TO IS 11188 (PART 1) : 1991 VAULT (STRONG ROOM) DOORS

PART 1 SPECIFICATION

(First Revision)

(*Page* 1, *clause* 2) — Substitute the following for the existing matter:

'2 REFERENCES

The Indian Standards listed in Annex A contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards given in Annex A.'

(*Page* 2, *Table* 1, *Sl No.* 11) — Substitute the following for the existing matter:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
11	Thickness of drill and oxyacetylene torch resisting layer (excluding mild steel plates), *Min*	10	20	45	70	120	10	20	45	70	120

(*Page* 2, *Table* 1) — Insert the following Note at the bottom of Table 1:

'NOTE — At Sl No. 4, 6, 7, 9, 10 and 18 minimum means nominal and tolerances are as per relevant Indian Standard.'

(*Page* 4, *Table* 2) — Substitute the following for the existing table:

Table 2 Material for Manufacture of Components of Vault Doors

(*Clauses* 6 *and* 8.2.1)

Sl No.	Part	Material Conforming to
(1)	(2)	(3)
1	Doors, door frame, bolt work, grill gate and other mild steel components	IS 1732 or IS 2062 or IS 5986 or IS 9550
2	Door fittings	Grade 1 of IS 306 or Grade III of IS 292 or IS 713 or IS 6603 or IS 6911 or Mild steel with epoxy power fusion coating
3	Oxyacetylene torch and drill resisting layer	Special oxyacetylene torch and drill resisting slab of suitable material or materials capable of withstanding burglarious attack with the help of oxyacetylene torch and H.S. drills
4	Guard plate underlock	Carbon steel case hardened to 55 HRC *Min*, Case depth 0.25 mm *Min* (with a minimum of 0.4 percent carbon)
5	Welding electrodes	IS 814
6	Rivets	IS 2155
7	Screws	Conforming to IS 1365
8	Finishing layer	a) Pretreatment; degreasing, derusting and phosphating of all components individually b) Nitrocellulose or acrylic or epoxy base paint

(*Page* 7, *Annex* A) — Substitute the following for the existing matter:

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

Sl No.	*Title*
110:1983	Ready mixed paint, brushing, grey filler, for enamels for use over primers (*second revision*)
292:1983	Leaded brass ingots and castings (*second revision*)
306:1983	Tin bronze ingots and castings (*third revision*)
419:1967	Putty, for use on window frames (*first revision*)
713:1981	Zinc base alloy ingots for die casting (*second revision*)
729:1979	Drawer locks, cupboard locks and box locks (*third revision*)
814:1991	Covered electrodes for manual arc welding of carbon and carbon manganese steels (*fifth revision*)
1365:1978	Slotted countersunk head screws (*third revision*)
1732:1989	Dimensions for round and square steel bars for structural and general engineering purposes (*first revision*)
2062:1992	Steel for general structural purposes (*fourth revision*)
2155:1982	Cold forged solid steel rivets for hot closing (6 to 16 mm diameter) (*first revision*)
5986:1992	Hot rolled steel plates, sheets, strips and flats for flanging and forming operation (*first revision*)
6603:1972	Stainless steel bars and flats

6911:1992	Stainless steel plate, sheet and strip (*first revision*)
9550:1980	Bright bars
11188 (Part 2):1991	Vault (strong room) doors: Part 2 Test for burglary resistance
11188 (Part 3):1991	Vault (strong room) doors: Part 3 Test for fire resistance

(MED 24)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 5 MAY 2002
TO
IS 11188 (PART 1) : 1991 VAULT (STRONG ROOM) DOORS
PART 1 SPECIFICATION

(First Revision)

(*Page* 4, *Table* 2, *Sl No.* 6, *col* 3, read with Amendment No. 4) — Substitute 'IS 2155 and IS 2998' for the existing.

(*Page* 7, *Annex A*, read with Amendment No. 4):

a) Substitute 'IS No.' *for* 'Sl No.' in the first column of List of Referred Indian Standards'.

b) Insert '2998 : 1982 Cold forged steel rivets for cold closing (1 to 16 mm diameter) *(first revision)*' after 'IS 2155 : 1982'.

(MED 24)

Reprography Unit, BIS, New Delhi, India